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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,886

04/28/2006

Bahaa Botros Seedhom

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KIRTON AND MCCONKIE

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EXAMINER

STEWART, JASON-DENNIS NEILKEN

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,886	Applicant(s) SEEDHOM ET AL.	
	Examiner JASON-DENNIS STEWART	Art Unit 3738	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/11/2008 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 9, 10, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al. (6,468,314) in view of Bonutti (6,117,160) further in view of Schwartz et al. 7,163,563. *Re* Claim 1, Schwartz illustrates (Fig. 15) a pad **16** of bio-compatible material, elongate connecting portions **132** connected to the periphery of the pad and connecting portions extending away from the general plane of the pad, also a retaining element **26** slideable depth wise of the groove. However, Schwartz does not

disclose the connecting element being spaced apart from the pad in anchored position by a length of said connecting portions within the groove.

Bonutti discloses an elongate connecting portion element 38 capable of being pushed to slide into a groove and applying a downward force to connecting elements 50 (Fig. 12; col. 18, ll. 35-55). Bonutti also discloses retaining element 50 that is configured to slide depthwise in a groove 40 (col. 3, ll. 40-49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an "array" of such connecting portions since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

It would have been obvious to modify the invention of Schwartz using the connecting elements of Bonutti in order to secure body tissue to bone which may or may not have been fractured as taught by Bonutti (col. 1, ll. 25-28) to provide the compression needed to promote healing.

Schwartz in view of Bonutti discloses the invention as disclosed and discussed above. However, although implied, Schwartz in view of Bonutti does not positively disclose an array of connection elements at or near the perimeter of the pad.

Schwartz '563 illustrates tissue repair material with an array of connecting elements 15, 17 fixed at the perimeter of the pad (fig. 28).

It would have been obvious to connect the pad of Seedhom to the retaining element of Bonutti in the manner disclosed in Schwartz '314 in order to fill the gap left by a meniscectomy as disclosed by Schwartz '563 (col. 23, ll. 4-7).

1. *Re Claim 2*, Schwartz teaches a pad seeded with cartilage forming cells (col. 4, ll. 34-36).

2. *Re Claim 3*, Schwartz teaches flexible elements 14 taken through the pad and can extend generally perpendicular to the pad (fig. 2). Schwartz also teaches spaces to allow for tissue in-growth (fig. 3).

3. *Re Claim 9*, Schwartz discloses the invention as claimed and as discussed above. However, Schwartz does not disclose connecting elements with looped ends.

Bonutti illustrates elongate connecting element having looped ends (Fig. 2)

It would have been obvious to modify the invention of Schwartz using the connecting method of Bonutti in order to secure body tissue to bone which may or may not have been fractured as taught by Bonutti (col. 1, ll. 25-28).

4. *Re Claim 10*, Schwartz teaches a pad 16 that is hexagonally shaped (col. 9, ll. 18-19).

5. *Re Claim 21*, Schwartz teaches a system for regenerating damaged or destroyed articular cartilage (abstract).

6. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being anticipated by Seedhom et al. 2003/0135209 in view of Bonutti 6,117,160 further in view of Schwartz et al. 7,163,563.

7. *Re Claim 18*, Seedhom teaches a method of repair or damaged tissue comprising forming a narrow groove into the bone, replacing damaged tissue with a bio-

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compatible material and anchoring the material by a retaining means (abstract).

However, Seedhom does not disclose the connecting element being spaced apart from the pad in anchored position by a length of said connecting portions within the groove.

Bonutti discloses an elongate connecting portion element 38 capable of being pushed to slide into a groove and applying a downward force to connecting elements 50 (Fig. 12; col. 18, ll. 35-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an "array" of such connecting portions since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

It would have been obvious to modify the method of Seedhom using the connecting elements of Bonutti in order to secure body tissue to bone which may or may not have been fractured as taught by Bonutti (col. 1, ll. 25-28) to compress tissue to promote the healing process.

Seedhom in view of Bonutti discloses the invention as disclosed and discussed above. However, although implied, Seedhom in view of Bonutti does not positively disclose an array of connection elements at or near the perimeter of the pad.

Schwartz '563 illustrates tissue repair material with an array of connecting elements 15, 17 fixed at the perimeter of the pad (fig. 28).

It would have been obvious to connect the pad of Seedhom to the retaining element of Bonutti in the manner disclosed in Schwartz '314 in order to fill the gap left by a meniscectomy as disclosed by Schwartz '563 (col. 23, ll. 4-7).

8. *Re Claim 19*, Seedhom teaches a reaming device (paragraph 27).

9. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al. 6,468,314 in view of Bonutti 6,117,160 in view Schwartz et al. 7,163,563 further in view of Goulet et al. 2007/0005138.

10. *Re Claim 4*, Schwartz in view of Bonutti in view of Schwartz '563 teaches the invention as claimed and as discussed above. However, Schwartz does not teach the following claimed limitation: a single filament extending in loops.

Goulet teaches a filament 2 attached by loops to pad 1 (Fig. 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schwartz in view of Bonutti in view of Schwartz '563 further in view of Goulet in order to provide an implant for connective tissue substitution as taught by Goulet (paragraph 13).

11. *Re Claim 5*, Schwartz in view of Bonutti of Schwartz '563 teaches the invention as claimed and as discussed above. However, Schwartz in view of Bonutti in view of Schwartz '563 does not teach the following claimed limitation: the retaining element pre-attached to the ends of the loops.

Goulet teaches a bone block retaining element 1 attached to the loops of a filament 1 (paragraph 79).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schwartz in view of Bonutti in view of Schwartz '563 further in view of Goulet in order to provide an implant for connective tissue substitution as taught by Goulet (paragraph 13).

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al. 6,468,314 in view of Bonutti 6,117,160 in view of Schwartz 7,163,563 in view of Goulet et al. 2007/0005138 further in view of Seedhom et al. 2003/0135209. Schwartz in view of Bonutti in view of Schwartz '563 in view of Goulet teaches the invention as claimed and as discussed above. However, Schwartz in view of Bonutti in view of Goulet does not teach the following claimed limitation: an introducer tool being forced into the groove.

Seedhom teaches an introducer tool 37 capable of producing downward force into groove (paragraph 105).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schwartz in view of Goulet further in view of Seedhom in order to repair damaged tissue present at or on the surface of bone in an animal as taught by Seedhom (abstract).

13. Claims 7,8,11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al. in view of Bonutti 6,117,160 in view of Schwartz 7,163,563 further in view Seedhom et al. 2003/0135205.

14. *Re* Claim 7, Schwartz in view of Bonutti in view of Schwartz '563 discloses the invention as claimed and as discussed above. However, Schwartz in view of Bonutti in view of Schwartz '563 does not teach the following claimed limitation: a retaining element having a preformed shape having the shape of the groove.

Seedhom teaches retaining element 39 formed to fit groove 25 (fig. 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schwartz in view of Bonutti in view of Schwartz '563 further in view of Seedhom in order to repair damaged tissue present at or on the surface of bone in an animal as taught by Seedhom (abstract).

15. *Re Claim 8*, Schwartz in view of Bonutti in view of Schwartz '563 teaches the invention as claimed and as discussed above. However, Schwartz in view of Bonutti in view of Schwartz '563 does not teach the following claimed limitation: a deformable retaining element.

Seedhom teaches a deformable retaining element (paragraph 106).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schwartz in view of Bonutti in view of Schwartz further in view of Seedhom in order to provide an easily maneuverable retaining element that gives the surgeon versatility with the device needed in tough to reach implantation sites.

16. *Re Claim 11*, Schwartz in view of Bonutti in view of Schwartz '563 teaches the invention as claimed and as discussed above. However, Schwartz in view of Bonutti in view of Schwartz '563 does not teach the following claimed limitation: a pre-assembled implant delivery device.

Seedhom teaches a pre-assembled implant delivery device ready for use by a surgeon (paragraph 106).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schwartz in view of Bonutti in view of Schwartz further in view of Seedhom in order to repair damaged tissue present at or on the surface of bone in an

animal as taught by Seedhom giving the surgeon easy to use apparatus eliminating surgery time by having the apparatus ready for use.

17. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al. in view of Bonutti in view of Schwartz '563 in view of Seedhom et al. 2003/0135205 further in view of Schmieding 7,264,634.

18. *Re Claim 12*, Schwartz in view of Bonutti in view of Schwartz '563 in view of Seedhom teaches the invention as claimed and as discussed above. However, Schwartz in view of Bonutti in view of Schwartz '563 in view of Seedhom does not teach the following claimed limitation: a hollow delivery device to introduce pad and retaining element into groove.

Schmieding teaches a hollow delivery device 24 (fig. 8).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schwartz in view of Bonutti in view of Schwartz '563 in view of Seedhom further in view of Schmieding in order to repair damaged articular joint surfaces as taught by Schmieding thus giving the surgeon the ability to work in small incisions or application sites.

19. *Re Claim 13*, Seedhom teaches connecting portions on the outer surface of delivery device (Seedhom, fig. 13).

20. *Re Claim 14*, Seedhom teaches connecting portions retained by a releasable holding arrangement (Seedhom, paragraph 106).

21. *Re Claim 15*, Seedhom teaches a tubular band (Seedhom, paragraph 106).

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22. *Re* Claim 16, Schwartz in view of Bonutti in view of Schwartz '563 in view of Seedhom teaches the invention as claimed and as discussed above. However, Schwartz in view of Bonutti in view of Schwartz in view of Seedhom does not teach the following claimed limitation: a removable tool handle.

Schmieding teaches a removable tool handle (paragraph 33).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schwartz in view of Bonutti in view of Schwartz '563 in view of Seedhom further in view of Schmieding in order to repair damaged articular joint surfaces as taught by Schmieding and remove cumbersome tool apparatus leaving the surgeon with more area to perform the necessary procedures.

23. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al. in view of Bonutti 6,117,160 in view of Schwartz et al. 7,163,563 in view of Seedhom et al. 2003/0135205 in view of Schmieding 7,264,634 further in view of Johanson et al. 2002/0042624. Schwartz in view of Bonutti in view of Schwartz '563 Seedhom in view of Schmieding teaches the invention as claimed and as discussed above. However, Schwartz in view of Bonutti in view of Schwartz in view of Seedhom in view of Schmieding does not teach following claimed limitation: a bearing coupling handle and delivery device.

Johanson teaches a bearing between the tool handle and delivery device (paragraph 54).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schwartz in view of Bonutti in view of Schwartz '563 in view of

Seedhom in view of Schmieding further in view of Johanson in order to transplant a bone plug from a donor site to a recipient site as taught by Johanson (abstract).

24. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seedhom et al. 2003/0135209 in view of Bonutti 6,117,160 in view of Schwartz 7,163,563. Seedhom in view of Bonutti in view of Schwartz teaches that the depth of a groove should be a multiple of the thickness of the tissue which is replaced. However, Seedhom does positively recite the range of “at least five times that of the thickness of tissue”. However, it has been held that “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, **see MPEP 2144.05, section II, part A.**

Response to Arguments

25. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection. However, for clarification purposes, Schwartz '563 is used as teaching reference to show an array of connecting elements that are attached to the perimeter or periphery of an implant to surgically place said implant at a biological site. Bonutti is used to show a connection element that subjects an element to a compressive force that keeps it stationary (col. 3, ll. 1-5). The device extending into groove at a greater depth or any other reference to anatomical placement is seen by the Examiner as a functional limitation and does not distinguish the Applicant's device over the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON-DENNIS STEWART whose telephone number is (571)270-3080. The examiner can normally be reached on M-F (alt Fridays off) 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Corrine McDermott can be reached on (571)272-4754. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS
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